SHRI SHIVRAJ PATIL: Sir, the construction of the airport has to be done by the National Airport Authority. This National Airport Authority has come into existence only two or three years back. And this National Airport Authority is not given any budgetary support. They have to get the loans from other organisations with the Civil Aviation Ministry and there is constraint of funds. But if any previous Minister has given any assurance, it would be our duty to see that that assurance is fulfilled. Maybe here is a matter of time whether we are able to do it in one years's time or two year's time. But if the assurance is given, we will certainly fulfil it.

MR. CHAIRMAN: Question No 84. Absent. Question No. 85. Absent. Question No. 86.

*84. [*The questioner (Shri Harvendra Singh Hanspal) was absent. For answer* vide *Cols.* 34-35 infra].

*85. [*The questioners (Shri T. R. Balu and Shri V. Gopalsamy) were absent. For answer* vide *col.* 35 infra].

Workshop on Vedic Mathematics

*86. SHRI SHANKER SINH VAGHELA:†

SHRI PRAMOD MAHAJAN:

Will the Minister of HUMAN RESOURCE DEVELOPMENT be pleased to state:

(a) whether, under the asuspices Rashtriya Ved Vidya Pratisthan, a worshop on Vedic Mathematics was held on October, 4th-7th, 1988 in Ahmedabad; if so, the details of the partcipants and the recommendations made therein; and

(b) what follow-up action has been taken or is proposed to be taken on each recommendation?

THE MINISTER OF HUMAN RESOURCE DEVELOPMENT (SHRI P. SHIV SHANKER): (a) Yes, Sir. Details are furnished in Statements 1 & 2 attached. (*See* below)

(b) As a first step, a round table of Vedic Mathematicians and other Mathematicians is proposed to be held.

†The question was actually asked on the floor fo the House by Shri Shanker Sinh Vaghela.

Statement-1

List of participants in the workshop at Ahmedabad from 4th to 7th October 1988

1. Professor H.C. Khare. 9. Jawahar Lal Nehru Road, Allahabad. — Director of the Workshop
2. Dr. A.R. Patel Member of Parliament, 5-B, Parliament House, New Delhi.
3. Dr. (Mrs.) Aruna Nigam. Department of Mathematics, Lucknow University, Lucknow.
4. Shr Ashok Khandelwal 10, Talkatora Road, New Delhi.
5. Dr. B. Rai, Department of Mathematics, University of Allahabad, Allahabad.
6. Mrs. C. Santamma. Department of Physics, Andhra University, Vishakhapatanam.
7. Mr. Dila Ram Vill. Bahadurpur. P.O. Sodholi Distt. Saharanpur (U.P.)
8. Shri Dilip Kulkarani, 1, Meghadut Suchanagar, Behind Peshava Park, Pune-411030,

9. Shri G.D. Dhall, Reader, Department of Education in Science and Mathematics, N.C.E.R.T., Sri Aurobindo Marg, New Delhi.

10. Dr. G.S. Aggarwal, Reader, Deptt. of Maths, University of Roorkee, Roorkee.

11. Shri H.D. Pandya Mairichhaya, Railway Housing Colony Bhavanagar (Gujarat)'

12. Dr. H.C. Sharma, Reader, Deptt. of Maths, University of Roorkee, Roorkee.

13. Shri Ishwarbhai Patel, Chairman, Maharishi Academy of Vedic Science, 36, High Land Park Society, Ahmedabad.

14. Shri Kireet Joshi, Member-Secretary Rashtriya Veda Vidya Pratishthan, 10, Talkatora Road, New Delhi.

15. Dr. Madhukar Ashtikar, 4, Ambajhari Layout, Nagpur.

16. Dr. Mandan Mishra, Director, Rashtriya Sanskrit Sansthan, Raja Gardan, New Delhi.

17. Shri N. Puri Reader in Civil Engineering, Roorkee University, 41/2, Amed Kunj, University Campus, Roorkee.

18. Dr. P.I. Mishra, Reader, Metalurgiet Engg., University of Roorkee, Roorkee.

19. K. Pragati Goel, S.R. F. University of Roorkee, Roorkee

20. Dr. R.C. Joshi, Reader, Electronics & Comm. Deptt. University of Roorkee, Roorkee.

21. Shri R.D. Jha, Rashtriya Sanskrit Sansthan, New Delhi.

22. Shrt R.L. Arora, 10, Talkatora Road, New Delhi.

23. Shri R.L. Yadav, Rashtriya Sanskrit Sansthan, New Delhi.

24. Professor R.P. Aggarwal, Department of Mathematics, Lucknow University, Lucknow.

25. Shri R.P. Jain, 10, Talkatora Road, New Delhi.

26. Dr. Rajendra Khanna, Deptt. of Physics, Govt. Science College, Ajmer (Raj.)'

27. Shri Rajendra Sharma, 5-B, Parliament House New Delhi.

28. Mrs. Rajani Chari, C/o Col. R. Rangachari, Co., G.S. (SD), H.Q. Central Command, P.O. Dilkusha, Lucknow.

29. Dr. Ram Prakash Singh, Department of Mathematics, Evening Chrtstian College, Allahabad.

30. Dr. Ramji Lal, Department of Mathematics, University of Allahabad, Allahabad-211002.

31. Dr. S.A. Parmahans, Department of Mathematics, (Faculty of Science), Banaras Hindu University, Varanasi.

32. Shri Sandeep Nayyar, Computer Programmer, Roorkee University, Roorkee.

33. Professor S.N. Pandey, Professor & Head Maths, Univesity of Roorkee, Roorkee.

34. Shri T.N. Dhar, Rashtriye Sanskrit Sansthan, New Delhi.

35. Dr. T.M. Karade, Professor of Maths, Ertstein Foundation International, 2, Tilak Nagar, Nagpur.

Statement-2

Recommendaitons of the Workshop held by the Rashtriya Veda Vidya Pratishthan on Vedic Mathematic at Ahmedabad on October 4th to 7th 1968

1. Vedic Mathematics provides a new way of solving probelems of Artihmetic; and these methods are convincingly simple.

2. In the class situations, Particularly in classes above III, certain difficulties have been encountered while applying Vedic Mathematics. Some of theses difficulties have been found resolvable, but there are still some others which remain to be resolved.

3. Research and studies on the foundation of Sutras have to be initiated, which would enable giving them proper mathematical footing.

4. A workshop for teachers of pre-primary and lower elementary stages of education should be organised.

5. A group should be invited in the form of a pre-workshop to discuss thoroughly various difficulties which have been encountered in the study of Vedic Mathematics at the school levels, particularly at levels beyond class III;

6. Only after and deailed examination can there be a possibility for Rashtriya Veda Vidya Pratishthan recommending introduction of Vedic Mathematics officially for school education.

श्री शंकर सिंह वाघेला : सभापति महोदय, वैदिक गणित के बारे में हमारे मानव संसाधन विकास मंत्रालय जो इतना बड़ा है, उसकी तरफ से जितना काम होना चाहिए था उतना नहीं हुआ है । अहमदाबाद में 4 से 7 अक्तूबर तक जो राष्ट्रीय वेद विद्या-प्रतिष्ठान द्वारा एक कार्यशाला आयोजित की गई थी उसमें कुछ सिफारिशें की गई थीं । नम्बर 2 सिफारिश में कहा गया है कि कठिन परिस्थितियों में विशेष रूप से तीसरी कक्षा से ऊपर की कक्षाओं में वैदिक गणित का प्रयोग करते समय कुछ कठिनाइयों का सामना करना पड़ा है । मैं जानना चाहता हूं कि वे कौन-सी कठिनाइयां हैं ? इनमें से कुछ कठिनाइयों को समाधान के योग्य पाया गया है, परन्तु फिर भी कुछ समस्यायें ऐसी है जिनका अभी समाधान किया जाना है । मैं पूछना चाहता हूं कि वह कौन-सी समस्याएं हैं, उनका आप ब्यौरा देने की कृपा करें । बी पार्ट मेरा कि ब्यौरेवार जांच के बाद ही राष्ट्रीय वेद विद्या प्रतिष्ठान के स्कूलों की शिक्षा के लिये सरकारी तौर पर वैदिक गणितों को लागू करने की सिफारिश करने की संभावना हो सकती है, तो यह कब तक ब्यौरेवार जांच होगी और कब तक ये सिफारिशें लागू करना संभव है ? मंत्री महोदय दो भागों में जवाब देने की कृपा करें ।

SHRI P. SHIV SHANKER: Sir, I will answer both parts of the question in one form. This is a complicated process. The sutras that are there have got to be accepted by the mathematicians themselves. While the mathematical formulae are there, the mathmaticians are still devided as to the process of reasoning and the manner in which the conclusions have been arrived at in the sutras themselves. Therefore, what I have been able to get—in statement II, which my honourable friend has read out—is with reference to the details as to the difficulties that have been faced with respect to Classes III and above, and it is a matter on which I am not in a position to say because the authorities themselves have not come to a conclusion. If the experts themeselves have not come to a conclusion and not recommended to me that these are the perecise matters where they are facing difficulties and this is the manner in which they are trying to resolve them, and unless they come forth with those details, I will not be in a position to say this. In my submission, having discussed it with my officers, I feel that it appears to be a very difficult process. We completed the two workshops—one was

at Jaipur and the other was at Ahmedabad, as my honourable friend has referred to. A round table conference of the mathematicians is sought to be convened sometime, at the end of December or in the beginning of January. Unless the matters are resolved and specific recommendations are made, it made, it will not be possible for the Government to scan them through and scrutinize them. Then the experts will have to go into as to how best these recommendaions have to be amalgamated into the courses. The NCERT has to be involved and, ultimately, the Board itself will have to take this decision. Therefore, it not possible for me to give the time-frame as to when it will be introduced, because the mathematicians themselves have not come to clear conclusions in this regard.

श्री शंकर सिंह वाघेला : चेयरमैन साहब, दुनिया के कई लोग आज वैदिक गणित के आधार पर अपने यहां के गणित को आगे ले जा रहे है । भारत सरकार को भी इसे गंभीरता से लेकर हमारे मैथेमेटिसयनस से कहना चाहिये कि जितनी जल्दी हो सके इसमें से *कन्क्लूजन निकालिये* । जैसा कि आपने कहा है गोलमेज सम्मेलन दिसम्बर में आप आयोजित करने जा रहे हैं और इसमें वैदिक गणितों और अन्य गणितों, अन्य ऐसे कौन से गणित हैं, इसका हमको भी पता चले कि किन किन गणितों को लेकर आप इस गोलमेज सम्मेलन को बुला रहे हैं ?

श्री पी० शिवशंकर : सभापति जी, मैंने पहले ही स्टेटमेंट में ये सारी तफसीलात दी हैं कि कौन-कौन से गणित के माहिर हैं जिनको हमने बुलाया है । आपने देखा होगा कि स्टेमेंट में नंबर 1 में हमने बड़े-बड़े मैथेमेटिसियंस के नाम दिये है । ये आधुनिक भी है और प्राचीन जो मैथेमेटिसियंस है, उससे संबंधित लोग भी है इसमें...

श्री शंकर सिंह वाघेला : वैदिक गणित है और ऐसे दूसरे कौन से गणित है जिनके लिये आपने... **(व्यवधान)** ...वे इंडिविजुअल है या...

श्री पी० शिवशंकर : बात यह है कि वैदिक गणित को समझाने के लिये उसके माहिरों की जरूरत है और समझने के लिये आधुनिक जो गणित के माहिर हैं उनकी आवश्यकता है । दोनों का *समन्वय जब होगा तब ही किसी निर्णय* पर आयेंगे । जब तक ये एक्सपर्ट्स किसी निर्णय पर नहीं पहुंचेंगे कि भई हां, इसका हम तीसरी कक्षा में चौथी कक्षा में या पांचवी कक्षा में लागू कर सकते है, जब तक उनका निर्णय नही होगा, वे रास्ता नहीं निकालेंगे कि किस तरीके से इसको लागू करना है उस वक्त तक हम कुछ नहीं कर सकते हैं । जहां तक गोल मेज कांफ्रेंस की बात मैंने की है उसमे भी हमने एक्सपर्ट्स को बुलाया है ताकि आपस में बैठकर जो भी सिफारिशें जयपुर के वर्कशाप में हुई है, अहमदाबाद के वर्कशाप में हुई है उनका विश्लेषण करे किसी निर्णय पर पहुंचा जाए । अब नाम तो उनका बोल नही सकता क्योंकि मैं हर वक्त मुख्तलिफ लोगों को हम बुला रहे है । जो पहले बुलाए गये थे । उनको भी बुलाते है ताकि वाद विवाद के बाद कोई रास्ता निकले । मैं आपसे यह निवेदन करूं कि इन दो वर्कशाप में बड़े-बड़े एक्सपर्ट बैठे है लेकिन इसके बावजूद भी वे किसी निर्णय पर नहीं पहुंचे है कि जो सूत्र है इनका आधार क्या है और जब तक आधार मालूम नहीं हो उस वक्त तक कुछ नहीं कहा जा सकता है । जिन एरियाज में यह डिस्कस कर रहे है वे हैं ट्रिग्नोमेटरी केलकुलस अर्थमेटिक और ज्योमेटरी इन सब के ताल्लुक से वे जा रहे हैं । जब तक इनका निर्णय नहीं होगा हम कुछ नहीं कर सकते हैं और जब तक इनकी सिफारिश नहीं आएगी हम अगला कदम नहीं उठा सकते हैं ?

श्री वीर भद्र प्रताप सिंह : मान्यवर, कहीं कठिनाई इसलिए तो नहीं है कि आप बार बार वर्कशाप में विचार करने को तत्पर हैं । ऐसा है कि प्रधानमंत्री जी ने हैदराबाद में कहा

था कि वैदिक मेथेमेटिक्स के आधार पर ज़ीरो निकला और सूर्य के इर्द-गिर्द पृथ्वी घूमती है यह निकला । मैं माननीय मंत्री जी से यह जानना चाहता हूं कि इसके अन्य मूल आधार क्या हैं और वर्तमान शिक्षा में इसका जो रेलेवेंस है उसको प्रेजेंट डे में आप कब तक प्राप्त कर सकेंगे ?

श्री पी० शिवशंकर : जहां तक वर्कशाप की बात है मार्च में जयपुर में एक वर्कशाप हुई थी और अक्तूबर में अहमदाबाद में हुई । अब इन वर्कशाप्स की आवश्यकता इस वास्ते है कि एक्सपर्ट बैठें हैं वे किसी निर्णय पर आ जाएं । जब तक एक्सपर्ट किसी निर्णय पर नहीं आते है अगर आप समझते हैं कि हम लोग हकूमत की तरफ से कोई निर्णय लें तो बड़ी मुश्किल पड़ जाती है । जहां तक यह सवाल है कि वैदिक मेथेमेटिक्स किस तरह से कब लागू किया जाएगा कोर्सेज के अन्दर उसके लिए वक्त की आवश्यकता है, यह मैं नहीं बता सकता कि कितने समय के अन्दर इस बात की पूर्ति की जाएगी ।

PROF. CHANDRESH P. THAKUR: sir, I would like to draw the attention of the Minister towards modern Mathematics. I am not concerned with the Vedic part of it. Not that it is not important. What I am trying to suggest is that the role of mathematics and quantitative technique is getting all-prevasive both at the educational level and at the level of post-education application in our life. It seems that the system of instruction. Of Mathematics in schools and colleges needs to be improved substantially to make it easy and effective in comprehension and competence. I think the modern societies, the western European societies and the North American societies have perfected that technique. Will the Minister taken proper steps to accelerate the process of modernisation of mathematical education at school, college and university levels?

SHRI P. SHIV SHANKER: The concerned authorities are already at work on this issue.

87. [*The questioners (Shri Puttapaga Radhakrishna and Shri C. Nar Singh Naik) were absent. For answer* vide *col.* 35-36 infra].

Study on increased passenger and goods traffic

*88. SHRI KAMAL MORARKA: Will the Minister of RAILWAYS be pleased to state:

(a) whether any expert study has been conducted for handling the increased passenger and goods traffic;

(b) if so, what are the salient findings thereof;

(c) whether it is a fact that the rail traffic is expected to double by 2000 AD; and

(d) if so, what measures are proposed to be taken by Government to meet this situation?

THE DEPUTY MINISTER IN THE MINISTRY OF RAILWAYS (SHRI MAHABIR PRASAD): (a) No. Sir.

(b) Does not arise.

(c) and (d) Rail traffic by 2000 A.D. is expected to almost double over the level of traffic carried in 1985-86. Indian Railways propose to take necessary measures to augment the transport capacity of the system, matching with the growth in demand.

SHRI KAMAL MORARKA: Sir, the Minister has not replied to my question at all. On their own admission, the railway traffic from the level of 1965 will double by the year 2000, but they have no plans ready. They say, the Indian Railways will take suitable and appropriate steps. Overnight you cannot create facilities to double the traffic—the railway track, the wagons and all the other equipment. With only 12 years to go for doubling the traffic, they say that they have not even made a study. This is no reply to my question. With Mr. Scindia there, I expected at least a rational reply on what